

DOCKET NO.: NIHA-0282 / E-048-2004/2-US-02

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:

Peter Daopin Sun and Zongcheng Zou

Confirmation No.: Not Yet Assigned

Application No.: 10/585,499

Group Art Unit: Not Yet Assigned

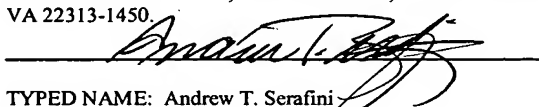
Filing Date: July 6, 2006

Examiner: Not Yet Assigned

For: **COMPOSITIONS AND METHODS FOR THE HIGH EFFICIENCY  
EXPRESSION OF THE TRANSFORMING GROWTH FACTOR-BETA  
SUPERGENE FAMILY**

DATE OF DEPOSIT: March 29, 2007

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TYPED NAME: Andrew T. Serafini  
REGISTRATION NO.: 41,303

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Commissioner for Patents  
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Dear Sir:

**INFORMATION DISCLOSURE STATEMENT**

Pursuant to 37 CFR § 1.56 and in accordance with 37 CFR §§ 1.97-1.98, information relating to the above-identified application is hereby disclosed. Inclusion of information in this statement is not to be construed as an admission that this information is material as that term is defined in 37 CFR § 1.56(b).

☒ In accordance with § 1.97(b), since this Information Disclosure Statement is being filed either within three months of the filing date of the above-identified

application, within three months of the date of entry into the national stage of the above identified application as set forth in § 1.491, before the mailing date of a first Office Action on the merits of the above-identified application, or before the mailing date of a first Office Action after the filing of request for continued examination under § 1.114, no additional fee is required.

- ☐ In accordance with § 1.97(c), this Information Disclosure Statement is being filed after the period set forth in § 1.97(b) above but before the mailing date of either a Final Action under § 1.116 or a Notice of Allowance under § 1.311, or before an action that otherwise closes prosecution in the application, therefore:

☐ Certification in Accordance with § 1.97(e) is attached; or

☐ The fee of \$180.00 as set forth in § 1.17(p) is attached.

- ☐ In accordance with § 1.97(d), this Information Disclosure Statement is being filed after the mailing date of either a Final Action under § 1.113 or a Notice of Allowance under § 1.311 but before, or simultaneously with, the payment of the Issue Fee, therefore included are: Certification in Accordance with § 1.97(e); and the submission fee of \$180.00 as set forth in § 1.17(p).

- ☒ Copies of reference numbers 1 - 26 listed on the attached Form PTO-1449 are enclosed herewith.

- ☐ Copies of reference numbers - on the attached Form PTO 1449 are not required to be submitted pursuant to 37 CFR § 1.98(a)(2)(i).

- ☐ Copies of references - are not being submitted because they were previously cited by or submitted to the U.S. Patent and Trademark Office in patent application number , filed for

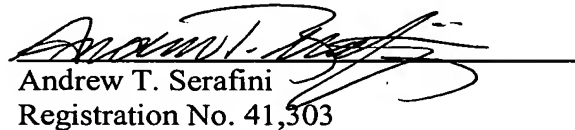
which a claim for priority under 35 U.S.C. § 120 has been made in the instant application.

☐ The relevance of those listed references which are not in the English language is as follows:

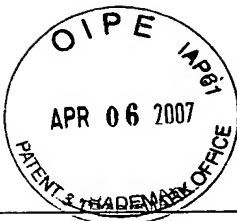
There are no listed references which are not in the English language.

Please charge any deficiency or credit any overpayment to Deposit Account No. 23-3050. This form is submitted in duplicate.

Date: March 29, 2007

  
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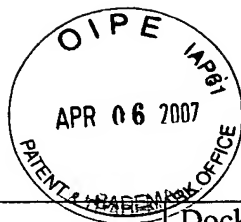
<b>Form PTO-1449 Modified</b>  List of Patent and Publications Cited by Applicant (Use several sheets if necessary)  U.S. Department of Commerce Patent and Trademark Office				Docket No. NIHA-0282 / E-048-2004/2-US-02		Application No. 10/585,499	
				Applicant Peter Daopin Sun and Zongcheng Zou			
				Filing Date July 6, 2006		Group Not Yet Assigned	
				Confirmation No. Not Yet Assigned			
<b>FOREIGN PATENT DOCUMENTS</b>							
<b>Examiner Initial</b>		<b>Document No.</b>	<b>Date</b>	<b>Country</b>	<b>Translation</b>		
					<b>YES</b>	<b>NO</b>	
	<b>1</b>	EP 0 319 641	09/22/93	EPO			
	<b>2</b>	EP 0 373 994	02/15/95	EPO			

<b>EXAMINER</b>	<b>DATE CONSIDERED</b>
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<b>NON-PATENT DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>			
	3	Archer et al., "Transforming Growth Factor $\beta$ 1: NMR Signal Assignments of the Recombinant Protein Expressed and Isotopically Enriched Using Chinese Hamster Ovary Cells," <i>Biochemistry</i> , <b>1993</b> , 32, 1152-1163	
	4	Blanchette et al., "TGF $\beta$ 1 Regulates Gene Expression of its Own Converting Enzyme Furin," <i>J. Clin. Invest.</i> , <b>1997</b> , 99, 1974-1983	
	5	Bourdrel et al., "Recombinant Human Transforming Growth Factor- $\beta$ 1: Expression by Chinese Hamster Ovary Cells, Isolation, and Characterization," <i>Protein Expr. Purif.</i> , <b>1993</b> , 4, 130-140	
	6	Dubois et al., "Processing of Transforming Growth Factor $\beta$ 1 Precursor by Human Furin Convertase," <i>J. Biol. Chem.</i> , <b>1995</b> , 270(18), 10618-10624	
	7	Frolik et al., "Purification and initial characterization of a type $\beta$ transforming growth factor from human placenta," <i>Proc. Natl. Acad. Sci. U. S. A.</i> , <b>1983</b> , 80, 3676-3680	
	8	Gentry et al., "Type 1 Transforming Growth Factor Beta: Amplified Expression and Secretion of mature and Precursor Polypeptides in Chinese Hamster Ovary Cells," <i>Mol. Cell Biol.</i> , <b>1987</b> , 7, 3418-3427	
	9	Gentry et al., "Molecular Events in the Processing of Recombinant Type 1 Pre-Pro-Transforming Growth Factor Beta to the Mature Polypeptide," <i>Mol. Cell Biol.</i> , <b>1988</b> , 8(10), 4162-4168	
	10	Gleizes et al., "TGF- $\beta$ Latency: Biological Significance and Mechanisms of Activation," <i>Stem Cells</i> , <b>1997</b> , 15, 190-197	
	11	Govinden et al., "Genealogy, expression, and cellular function of transforming growth factor- $\beta$ ," <i>Pharmacol. Ther.</i> , <b>2003</b> , 98, 257-265	
	12	Griffith, "Three-dimensional structure of recombinant human osteogenic protein 1: Structural paradigm for the transforming growth factor $\beta$ superfamily," <i>Proc Natl. Acad. Sci U.S.A.</i> , <b>1996</b> , 93, 878-883	
	13	Hogan, "Bone morphogenetic proteins: multifunctional regulators of vertebrate development," <i>Genes Dev.</i> , <b>1996</b> , 10, 1580-1594	
	14	Khalil, "TGF- $\beta$ : from latent to active," <i>Microbes. Infect.</i> , <b>1999</b> , 1, 1255-1263	
	15	Kingsley, "The TGF- $\beta$ superfamily: new members, new receptors, and new genetic tests of function in different organisms," <i>Genes Dev.</i> , <b>1994</b> , 8, 133-146	
	16	Lawrence, "Latent-TGF- $\beta$ : An Overview," <i>Mol. Cell Biochem.</i> , <b>2001</b> , 219, 163-170	

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**NON-PATENT DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

	17	Marks et al., "By-passing Immunization: Human Antibodies from V-gene Libraries Displayed on Phage," <i>J. Mol. Biol.</i> , <b>1991</b> , 222, 581-597
	18	Massague, "TGF $\beta$ Signaling: Receptors, Transducers, and Mad Proteins," <i>Cell</i> , <b>1996</b> , 85, 947-950
	19	Miyazono et al., "Latent High Molecular Weight Complex of Transforming Growth Factor $\beta$ 1," <i>J. Biol. Chem.</i> , <b>1988</b> , 263(13), 6407-6415
	20	"Transforming growth factor beta-1 precursor," GenBank Accession No. P01137, February 20, 2007
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	22	"Transforming growth factor beta 2 precursor," GenBank Accession No. P08112, March 15, 2004
	23	"Transforming growth factor beta-3 precursor," GenBank Accession No: P10600, February 20, 2007
	24	Roberts et al., "New class of transforming growth factors potentiated by epidermal growth by epidermal growth factor: Isolation from non-neoplastic tissues," <i>Proc. Natl. Acad. Sci. U. S. A.</i> , <b>1981</b> , 78(9), 5339-5343
	25	Shi et al., "Mechanisms of TGF- $\beta$ Signaling from Cell Membrane to the Nucleus," <i>Cell</i> , <b>2003</b> , 113, 685-700
	26	Zou, Z. et al., "Overexpression of human transforming growth factor- $\beta$ 1 using a recombinant CHO cell expression system," <i>Protein Expression and Purification Academic Press</i> , <b>2004</b> , 37(2), 265-272

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